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Superfund Liability Reform: Implications for Transaction Costs and Site Cleanup

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PREFACE

This publication contains the written statement of Lloyd S. Dixon submitted on March 10, 1995 to the Subcommittee on Superfund, Waste Control and Risk Assessment of the United States Senate Environment and Public Works Committee. Mr. Dixon's statement is based on several RAND studies of the transaction costs generated by the Superfund process, but it does not necessarily reflect the views of RAND or of the research's sponsors.

The author summarizes previous RAND estimates of private sector and government transaction costs at Superfund sites to date and when cleanup is complete. He then considers what various liability reforms imply for transaction costs and site cleanup.

Written Statement of Lloyd S. Dixon Submitted to the
Committee on Environment and Public Works,
Subcommittee on Superfund, Waste Control and Risk Assessment
United States Senate

March 10, 1995

Mister Chairman and Members of the Subcommittee, thank you for inviting me to participate in your hearings on the Superfund program. My name is Lloyd Dixon, and I am an economist at the Institute for Civil Justice at RAND. The views and conclusions presented here are my own and should not be interpreted as representing those of RAND or any sponsors of our research.

The liability provisions of the Superfund program cause considerable controversy. They generate substantial transactions costs, which are costs resulting not from cleanup but from assigning liability, and are likely at least in part responsible for the slow pace of the program. Today I will discuss what our research at RAND has revealed about transaction costs and then discuss some implications of various liability reforms on transaction costs and site cleanup.

SUPERFUND TRANSACTION COSTS ARE SUBSTANTIAL

The Superfund process generates transaction costs because it creates a complex set of interactions among the different players in the cleanup process and provides many opportunities for the parties to contest the amount of their liability. The key sources of transaction costs are: (1) disputes between potentially responsible parties (PRPs) over allocation of liability; (2) disputes between the government and PRPs over cleanup standards and remedy selection; and (3) disputes between PRPs and insurers over insurance coverage.

Several studies done at RAND suggest that Superfund generates substantial transaction costs.¹ We estimate that transaction costs

¹Acton, Jan P. and Lloyd S. Dixon, *Superfund Transaction Costs: The Experiences of Insurers and Very Large Industrial Firms*, RAND, R-4132-ICJ, 1992; Dixon, Lloyd S., Deborah S. Drezner, and James K. Hammitt, *Private Sector Cleanup Expenditures and Transaction Costs at 18*

accounted for 32 of PRP expenditures at NPL sites through 1991 and that the vast majority, 88 percent, of insurer outlays between 1986 and 1989 on claims related to Superfund sites were transactional in nature. These estimates imply that 36 percent of the approximately \$11.3 billion spent by the private sector at Superfund sites through 1991 went to transaction costs rather than cleanup.

The share of transaction costs in total expenditures will likely fall as the cleanups progress, but what transaction costs will be when cleanup is complete is very uncertain. Our estimates of final private-sector transaction costs range from 23 to 31 percent for those sites at which there were substantial outlays through 1991.²

To determine the total transaction costs generated by the Superfund process, we must add the transaction costs of local, state, and federal government to those of the private sector. There are no precise estimates of government transaction-cost shares. The most we can say is that the share of transaction costs in EPA spending lies somewhere between 15 and 40 percent.³ A comprehensive analysis of state and local spending has yet to be done.

In evaluating the Superfund's performance, it is important to note that transactions costs are not consistently high at all sites on the NPL. We found that transaction costs are lower at sites with fewer PRPs

Superfund Sites, RAND, MR-204-EPA, 1993; Dixon, Lloyd S., *Fixing Superfund: The Effect of the Proposed Superfund Reform Act of 1994 on Transaction Costs*, RAND, MR-455-ICJ, 1994.

²Several factors add to the uncertainty about the final transaction-cost share at all NPL sites. On the one hand, certain transaction costs that are very hard to measure, such as the extra documentation and testing needed for court cases, are likely missing from our estimates, causing us to understate transaction costs. On the other, it appears that sites at which there were substantial private-sector expenditures through 1991 have more PRPs than the remaining sites on the NPL, and because transaction costs are lower at sites with fewer PRPs, this may cause us to overstate final transaction costs at all NPL sites.

³The lower bound is based on the share of EPA's 1993 commitments and obligations that went to enforcement (13 percent). The upper bound is based on the share of the EPA budget that was not spent on direct site cleanup costs and research and development (EPA, Office of Solid Waste and Emergency Response, 2nd Quarter FY94 Superfund Historical Performance, p. IV-1).

and sites that are less expensive to clean up. Specifically, PRP transaction costs (excluding insurer transaction costs) were 14 percent of total outlays through 1991 at the sites in our study with 15 or fewer PRPs and approximately 35 percent for sites with larger numbers of PRPs. PRP transaction costs at sites with expected cleanup costs less than \$20 million were roughly one-sixth those of sites with expected cleanup costs greater than \$75 million. This suggests that the liability approach may generate modest transaction costs at sites that involve few PRPs and are relatively inexpensive to clean up.⁴

CONSEQUENCES OF POSSIBLE LIABILITY REFORMS ON TRANSACTION COSTS AND SITE CLEANUP

I will address three approaches to reforming Superfund's liability provisions: (1) retain retroactive liability but modify program operation; (2) repeal retroactive liability for wastes disposed at NPL sites prior to a specified cutoff date; (3) repeal retroactive liability for all wastes disposed prior to a specified cutoff date, whether the site is on the NPL or not.

Retain Retroactive Liability with Modifications in Program Operation. The Superfund Reform Act of 1994, introduced in the last Congress as H.R. 3800, is an example of a reform that would retain PRP liability to pay for past disposal practices, but would significantly change how the program operates. One of the explicit goals of H.R. 3800 was to reduce transaction costs. We at RAND evaluated the proposed legislation in detail, assessing its likely effects on transaction costs.⁵ We concluded that the legislation would likely take a significant step toward reducing the amount of society's resources going

⁴The bulk of sites currently on NPL apparently have 15 or fewer PRPs. Resources for the Future (Probst, Katherine N. et al. *Footing the Bill for Superfund Cleanups: Who Pays and How?*, Resources for the Future and The Brookings Institute, 1995) estimates that 59 percent of nonfederal NPL sites have 10 or fewer PRPs and a EPA database we examined showed that 50 percent had 15 or fewer PRPs (Dixon, Lloyd S., "The Transaction Costs Generated by Superfund's Liability Approach", in *Superfund Reauthorization: Theoretical and Empirical Issues*, R. Stewart and R. Revesz, eds., Resources for the Future, 1995 (forthcoming)).

⁵Dixon, Lloyd S., *Fixing Superfund: The Effect of the Proposed Superfund Reform Act of 1994 on Transaction Costs*, op. cit.

to litigation rather than cleanup, but we were unable to quantify the reduction. We determined that the Superfund process would have remained complex under the proposed legislation, but critical components would have become simpler and more standardized. The legislation would have reassigned several key tasks to parties better qualified to perform them and appeared to give PRPs strong incentives to cooperate rather than to contest settlements. Some troubling features of the program would have remained, but the transaction costs would have likely declined.

Repeal Retroactive Liability at NPL Sites Prior to Specified Cutoff Date. Repealing retroactive liability for wastes disposed at NPL sites prior to a certain date would remove a great number of parties from the cleanup process. Transaction costs of both PRPs and insurers at NPL sites would be reduced, and the later the cutoff date the larger the reduction. Some contentious issues would remain, however. Disputes would be likely over when wastes were actually disposed. And if the cutoff date were before 1987, disputes between PRPs and insurers over wastes sent between the cutoff date and 1987, which is the date when absolute pollution exclusions in insurance policies relieve insurers of liability, would continue. Disputes would also continue between the government, PRPs, and insurers at non-NPL sites.

Repealing retroactive liability for NPL sites also has several ramifications that must be addressed. First, many claim that private firms clean up sites more cost-effectively and manage contractors more efficiently than government. Studies now commonly assume that the private sector has a 20 percent cost advantage over the public sector in site cleanups.⁶ However, these claims need to be examined more carefully. For example, it is hard to believe that the current system could be a great deal more efficient than a well-managed public works program. Under the current system there is a great deal of redundancy: EPA supervises its contractors who supervise the PRPs who supervise their contractors. One could imagine a non-liability-based system that did not involve such redundancies. One might also reasonably argue that

⁶For example, see Congressional Budget Office, *The Total Cost of Cleaning Up Nonfederal Superfund Sites*, Washington, D.C., 1994 and Probst et. al, op. cit.

the government's incentives to choose more rather than less cost-effective remedies might be stronger if the government were funding cleanups from a limited pot of public money.

Second, removing private funding threatens to slow down the cleanup program unless adequate tax revenues are raised. Slowing down cleanups may increase the exposure of humans and ecosystems to hazardous substances, which, absent new constraints on bringing lawsuits, may in turn generate bodily injury and property damage claims under tort law or natural resource damage claims.^{7,8} National figures on the number and costs of bodily injury/property damage and natural resource damage suits do not exist, but our research suggests bodily injury and property damage suits related to hazardous waste sites currently generate substantial transaction costs.⁹ How many tort cases might be generated is uncertain--if the threats posed by many sites are not large, few tort cases may materialize.

Third, it is important to consider how repealing retroactive liability at NPL sites would affect voluntary cleanups. Data on the number of voluntary cleanups are sketchy, but voluntary cleanups may be frequent. Repeal of federal retroactive liability may reduce the incentives for voluntary cleanups, but further exploration of this issue is necessary.¹⁰

Fourth, the repeal of federal retroactive liability may adversely affect state programs to cleanup non-NPL sites. Some 40 states currently have liability provisions similar to Superfund's and many have active cleanup programs. Many more sites are involved in state programs

⁷Over time, trial court judges have showed increased willingness to entertain class action suits and appellate courts have become more willing to uphold their actions. For a description of recent trends in class action suits see Hensler, Deborah R. and Mark A. Peterson, "Understanding Mass Personal Injury Litigation: A Socio-Legal Analysis," *Brooklyn Law Review*, Vol. 59, No. 3, Fall 1993.

⁸Natural resource damages are damages to the environment that result from the discharge of oil or the release of a hazardous substance.

⁹Dixon, Lloyd S., *Fixing Superfund: The Effect of the Proposed Superfund Reform Act of 1994 on Transaction Costs*, op. cit., p. 55.

¹⁰Liability under common law and state cleanup programs might continue to provide considerable incentives for voluntary cleanups.

than in the federal programs. State sites are usually less expensive and involve fewer PRPs than NPL sites, and thus may not generate high transaction costs. Repeal of federal retroactive liability may start a competition among states to improve their business climate by repealing state retroactive liability, stopping the cleanup at sites where transaction costs may be modest.

Repeal Retroactive Liability at all NPL and Non-NPL Sites Prior to Specified Cutoff Date. Releasing PRPs from liability from any waste disposed prior to a certain date would for the most part eliminate transaction costs. If the cutoff date were 1987 or later, insurers would be released from all liability. Some disputes may remain between firms and the government over date of disposal.

Total release of the private sector from liability to clean up all old wastes could, of course, create an enormous financial burden on government. How big the burden would be depends on how fast the government attempts to do the cleanups and on the cleanup standards. If the cleanup standards or the rate of cleanup are such that exposure to hazardous substances and injury increases, then, absent new constraints on bringing lawsuits, the repeal of retroactive liability could increase the number of private tort and natural resource damage cases--with the attendant transaction costs. The potential for such suits could also create disincentives to reuse industrial sites in much the same way that concern over statutory retroactive liability does now.

RETROACTIVE VERSUS PROSPECTIVE LIABILITY

So far I have focused on Superfund's retroactive liability provisions, but I would now like to turn briefly to its prospective liability provisions. Retroactive liability probably has little effect on how firms manage their newly generated wastes, but prospective liability clearly does.¹¹ Prospective liability provides firms with

¹¹Some argue that in the early years of the Superfund program it was the large liabilities for past practices that drew the attention of senior management and induced rapid improvements in disposal practices. But by now, that signal has been sent, and retroactive liability should have little relevance to current disposal practices.

incentives to comply with Resource Conservation and Recovery Act (RCRA) requirements and to make sure the sites to which they send their wastes are properly managed and maintained. Such liability may reduce the resources needed for RCRA enforcement.

The merits of joint and several prospective liability, as opposed to proportional prospective liability, are less clear. Joint and several liability may overdeter certain behavior or create perverse incentives. For example, under joint and several liability firms may prefer not to commingle their wastes with that of other firms, thus proliferating hazardous waste disposal sites.

CONCLUSIONS

Based on our understanding of Superfund costs to date, eliminating liability prior to a particular cutoff date would significantly reduce transaction costs, at least in the short run. The later the date, the larger the likely reduction.

Of course, any new program would have costs of its own, and it remains an open question whether these costs would be lower, the same as, or larger than the costs of the current program. In the case of a federal public works program, key questions include the efficiency with which the government runs the cleanup program.

If repealing retroactive liability slows the pace of cleanups, there may be added costs in the long run which should be considered. Increased exposure to hazardous substances and possible injury may generate private tort and natural resource damages claims that will burden both the legal system and private firms in the future.

